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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/653,978	09/04/2003	Kazuhiko Fukutani	03500.017112.	4479
5514	7590	12/02/2004	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			XU, LING X	
			ART UNIT	PAPER NUMBER
			1775	
DATE MAILED: 12/02/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/653,978	Applicant(s) FUKUTANI ET AL.	
	Examiner Ling X. Xu	Art Unit 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/16/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 23 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 23 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/4/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicants' amendments filed on 11/16/2004 have been entered. Claims 7-22 have been cancelled.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-6 and 23-24 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 and 26-27 of copending Application No. 10/640,047 (see amendment of this copending application filed on 11/16/2004). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed invention in both applications recites a porous body

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comprising a plurality of pores and a region of amorphous surrounding them. The shape of the pores in the '047 application is pillar-shaped which is considered the same or very closely similar to the columnar pores recited in the claims of present application. The amorphous surrounding region in the '047 application contains oxide, which is encompassed by the limitations of the amorphous region recited in the present application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-6 and 23-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Brinker et al (US 5,858,457).

With respect to claims 1-2 and 5-6, Brinker discloses a porous film deposited on a substrate by a process comprising the steps of evaporation of solvent and water (col. 10, lines 50-67). The porous film comprises plurality of ordered pores with hexagonal, cubic, or lamellar shapes (col. 3, lines 60-67 and col. 10, lines 50-67). At least the hexagonal and cubic shapes are considered to have the same shape as the claimed columnar pores. In addition, these highly ordered pores with hexagonal, cubic or lamellar shapes are considered not branched and the diameters of the pores are substantially the same in the direction of depth. The pores formed by evaporation of solvent and water indicates that the ordered pores are substantially perpendicular to the substrate.

Brinker also discloses that the material for the porous film comprising silicon, aluminum, or combinations of silicon and aluminum (col. 10, lines 60-67). The final product of the film is in a relatively dense amorphous phase (col. 4, lines 1-11).

With respect to claims 3-4, Brinker discloses the pore size is about 1-20nm (col. 5, lines 55-67), which is within the claimed range of less than 20nm. Brinker also discloses that the spaces between pores are greater than about 1 nm (col. 4, lines 1-10), which indicates that the average intercentral distance may be about 2-21nm (since the pore size is about 1-20nm), which is within the claimed range of less than 30nm.

With respect to claims 23-24, Brinker discloses that the applications of the porous film include membrane (the “filter”) or optical hosts (the “mask material”).

Accordingly, Brinker discloses all the limitations of claims 1-6 and 23-24.

Response to Arguments

5. Applicants’ arguments filed 11/16/2004 have been fully considered but they are not persuasive.

Applicants argue that Brinker fails to disclose forming a substrate in which the depth direction of the columnar pores is substantially perpendicular to the substrate. Applicants state, in response to the prior Office action on page 6, that the evaporation of the solvent and water does not necessarily result in a formation of the columnar pores or pillar-shaped pores oriented in a direction, which is substantially perpendicular to the substrate.

It should be noted that on page 6 of the prior Office action dated 8/11/2004, the Examiner states that “the pores formed by evaporation of solvent and water indicates that the

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ordered pores are substantially perpendicular to the substrate.” (emphasis added). As stated in the prior Office action, Brinker discloses the porous film comprising plurality of ordered pores with hexagonal, cubic, or lamellar shapes (col. 3, lines 60-67 and col. 10, lines 50-67).

Therefore, at least the hexagonal or cubic shaped pore itself is considered to be substantially perpendicular to the substrate. The pores formed by evaporation of solvent and water confirms that the ordered (“oriented”) pores with hexagonal and cubic shapes are substantially perpendicular to the substrate.

The provisionally obviousness-type double patenting rejection is also maintained since the rejection of claims 1-6 and 23-24 under 35USC 102(b) over Brinker is maintained.

Conclusion

6. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling X. Xu whose telephone number is 571-272-1546. The examiner can normally be reached on 8:00 - 4:30 Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah D. Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ling X. Xu
Examiner
Art Unit 1775